



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SEP 12 2012

ACTION MEMORANDUM

SUBJECT: Request for a Ceiling Increase and Change in Scope of Response at the Klouda Estate Site, Fort Valley, Peach County, Georgia

FROM: Brian Englert, On-Scene Coordinator BCE
Emergency Response and Removal Branch

THRU: A. Shane Hitchcock, Chief ASN
Emergency Response and Removal Branch

TO: Franklin E. Hill, Director
Superfund Division

SITE ID #: B4Q8

I. PURPOSE

The purpose of this Action Memorandum is to request and document a Ceiling Increase and Change in Scope of response for the Klouda Estate Site (the Site) located in Fort Valley, Peach County, Georgia. The Site continues to pose a threat to public health and the environment that meets the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Section 300.415(b)(2) criteria for removal actions. Site activities were commenced as stated in the Emergency Action Memorandum signed May 4, 2012. A Ceiling Increase and Change in Scope of response are needed in order to continue activities at the Site and to further mitigate the threats to human health, welfare and the environment. If approved, this ceiling increase will bring the total project ceiling to \$895,949 of which \$654,168 will be funded by the Regional Removal Allowance.

II. SITE CONDITIONS AND BACKGROUND INFORMATION

CERCLIS ID #: GAN000410823

A. Site Description

The Site is located on a 115-acre parcel of property on which Southern Crop Services purportedly operated an air strip from around 1950 through the 1970s. As part of their operations, the crop duster, purportedly dumped and rinsed their aerial application tanks and formulation tanks near several open wells. There is contamination in the soil and groundwater on the Site and in nearby residential wells. Toxaphene, DDT and lindane contamination at the Site have been confirmed by sampling conducted by the U.S. Environmental Protection Agency, the Klouda Estate and Georgia Environmental Protection Division (EPD).

1. Removal Site Evaluation

On January 30, 2012, EPD referred the Site to the EPA due to residential well and soil contamination and a lack of state resources needed to conduct a removal action. On March 1, 2012, the EPA Region 4 On-Scene Coordinators (OSC) Tim Neal and Brian Englert mobilized to conduct an initial Site reconnaissance and to begin a removal site evaluation (RSE) of the Site. The initial Site visit revealed drums containing investigation derived wastes (IDW) near the Site monitoring wells as well as several additional open wells on the property. Soil boring locations from a 2005 sampling event conducted by the Klouda Estate were still clearly marked. IDW originated from a phase II investigation conducted by the Klouda Estate.

On April 12, 2012, the EPA OSCs Carter Williamson, Tim Neal, Brian Englert, and the Superfund Technical Assessment and Response Team (START) sampled soil and residential wells at the Site. Soils were sampled at 0 to 6 inches, and 18 to 24 inches in depth, on the Site and drinking water wells immediately to the east and southeast of the Site were sampled. Soil and residential well samples were analyzed for VOC, SVOCs, Chlorinated Pesticides, Organophosphorus Pesticides, and RCRA Metals. Additionally, one soil sample was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) toxaphene, and all residential well samples were analyzed for toxaphene congeners. The purpose of the RSE was to delineate toxaphene, DDT and lindane contamination in the soil and groundwater. All activities were undertaken pursuant to Section 300.410 of the NCP.

The EPA reviewed data and determined that toxaphene levels were above the EPA's Tap Water Removal Management Level (RML) of 1.3 µg/L in five out of the seven residential drinking water wells. Numerous soil samples collected also exceeded the toxaphene RML (160 mg/kg) for industrial soil by as much as 40 times. Laboratory results are found in Tables 1 and 2 and are compared with the EPA RMLs, the EPA Maximum Contaminant Levels (MCL), the EPA Removal Screening Levels (RSL) and TCLP Maximum Acceptable Levels (MAL) for toxaphene.

The EPA initiated an emergency response to provide residents with bottled drinking water and instructed residents not to drink their well water. Based on the Technical Services Section's (TSS) recommendations, the EPA also instructed several residents to limit their time in the shower.

The decision to conduct the emergency removal action is documented in the May 4, 2012 Action Memorandum. This action was initiated under the OSC's \$250,000 warrant authority. The emergency response was necessary to mitigate the threats posed from high concentrations of toxaphene in residential drinking water wells.

The following activities have been conducted at the Site to date:

- The EPA and START have conducted sampling of soils and residential wells adjacent to the Site.
- The EPA has initiated an emergency response to provide residents with bottled water.
- The EPA has begun the process of planning the requirements for water supply line installation for affected residences.

Table 1. Residential Well Sample Results in µg/L								
Analyte	RML	RSL	MCL	KES1-PW	KES2-PW	KES3-PW	KES4-PWW-PRE	KES4-PWW-PRE-DUP
Endrin ketone	5	1.7	2	2.77	3.60	3.85	7.19	9.62
Toxaphene	1.3	0.013	3.0	6.38	10.7	15.9	21.2	17.7
Analyte	RML	RSL	MCL	KES4-PWW-POST	KES5-PWE-PRE	KES6-PW	KES7-PW-PRE	KES7-PW-POST
Endrin ketone	5	1.7	2	0.850	0.679	0.230	0.100	0.098
Toxaphene	1.3	0.013	3.0	4.56	4.21	1.23	5.38	5.32
Red: Exceeds the RML for Tap Water								
Yellow: Exceeds the MCL								
RML, RSL and MCL values are for Endrin								

Table 2. Non-Residential Soil Sample Results in µg/kg						
Analyte	RML	KES-01-SF	KES-01-SF-DUP	KES-01-SB	KES-02-SF	KES-02-SB
DDT	700,000	2,540,000	2,430,000	66,200	2,130,000	108,000
Toxaphene	160,000	8,000,000	7,600,000	210,000	8,330,000	456,000
Analyte	RML	KES-03-SF	KES-03-SB	KES-04-SF	KES-04-SB	KES-05-SF
DDT	700,000	47,900	3,070	52,500	1,820	442,000
Toxaphene	160,000	235,000	31,500	221,000	10,100	1,620,000
Analyte	RML	KES-05-SB	KES-06-SF	KES-06-SB		
DDT	700,000	193,000	664,000	20,000		
Toxaphene	160,000	606,000	2,810,000	67,700		
Yellow: Exceeds the RML for Industrial Soil						
Analyte			40 CFR 261		KES-01-TCLP	
TCLP Toxaphene (mg/L)			0.5		0.305J	
Yellow: Exceeds the RML						

2. Physical Location

The Site is located on a 114-parcel of land east in Peach County, Georgia. The southeast corner of the property adjoins to the intersection of Georgia State Highway 96 and Fullwood Road. The Site has been historically used for agricultural purposes and is currently used for commercial peach and pecan production. The approximate latitude and longitude of the Site entrance are 32.5586°N and 83.8410°W.



Figure 1: Aerial image of Klouda Estate Site (See Orange Outline). The Red Outline shows the portion of the Estate where contamination has been found.

3. Site Characteristics

The Site is located on a 115-acre parcel of property on which Southern Crop Services operated an air strip from around 1950 through the 1970s. Currently the property is used for commercial peach and pecan production. A residential neighborhood is located approximately 100 feet east of the Site. The area immediately to the east, west and south of the Site is residential in nature.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

The presence of toxaphene and DDT constitutes a release of hazardous substances as defined by CERCLA 101(14). The contamination at the Site has been confirmed by sampling conducted by the EPA, the Klouda Estate and EPD. As stated in previous sections, sample results revealed soil and drinking water contamination above the RMLs.

5. NPL Status

The Site is not currently a National Priorities List (NPL) Site. Preliminary discussions with the EPA's Site Evaluation Section indicated that the Site is not likely to become a candidate for listing on the NPL.

6. Maps, pictures and other graphic representation

An aerial photograph of the Site is shown in Section A. A map showing the EPA and Klouda Estate sample locations is also shown below.



Figure 2. Select sample locations.

B. Other Actions to Date

1. Previous Actions

As discussed in Section II. A. 1 of this Action Memorandum, the EPA initiated an emergency response to provide residents with bottled drinking water and instructed residents not to drink their well water. The decision to conduct the emergency removal action is documented in the May 4, 2012 Action Memorandum.

2. Current Actions

As discussed in Section II. A. 1 of this Action Memorandum, the EPA is currently providing bottled water to residents and is in the process of planning a waterline installation.

C. State and Local Authorities' Roles

1. State and local actions to date

The Site was listed on the Georgia Hazardous Site Inventory on November 10, 2005 in response to a release notification submitted to EPD by the Klouda Estate. Since 2005, the Klouda Estate has installed monitoring wells and conducted several sampling events including soil sampling events in June 2005, December 2005, and February 2006 and a groundwater sampling event in December 2011. In January 2012, EPD conducted sampling and analysis of residential wells used as the primary source of drinking water for seven nearby residences.

Soil sampling results collected in 2005, by the Klouda Estate, indicate that toxaphene concentrations in surface soil in close proximity to residential neighborhoods were as high as 33 times (5321 mg/kg) the EPA RML for industrial soil (160 mg/kg), and soil contamination exceeding the RML extends as far as eight feet beneath the top soil. The 2011 results from monitoring well samples located within 350 feet of residential drinking water wells are 35 times (45 µg/L) the toxaphene RML for tap water (1.3 µg/L).

Residential well samples collected in 2012 by EPD exceeded the EPA MCL (0.2 µg/L) for lindane in two of the seven drinking water wells tested. While lindane was detected in all of the wells tested at that time, the results were below the EPA's tap water RML (1.3 µg/L). These wells serve as the primary drinking water source for one residence on Fullwood Road. The home owners supplied themselves with bottled water at the State's recommendation. On January 30, 2012, EPD referred the Site to the EPA for consideration of a time-critical removal action or other response action as appropriate.

2. Potential for Continued State/Local Response

EPD has referred this Site to the EPA citing both the contamination at the Site and lack of funding necessary to address this response.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR TO THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Toxaphene first became available commercially in 1948 and was used in various forms on various crops including, peach, cotton, soybean, tobacco, ornamental plants, grains, vegetables, as well as mange livestock and fisheries. The EPA cancelled almost all registrations for uses of toxaphene in November 1982, and later banned the pesticide entirely. Toxaphene is a CERCLA hazardous substance. Toxaphene in soil and groundwater poses the following threats to public health and welfare. Consumption of large amounts of toxaphene may damage the nervous system and kidneys. Acute signs and symptoms of exposure include nausea, confusion, agitation, tremor, convulsions, unconsciousness, dry and red skin.^{1, 2} Toxaphene is also classified as a class B2 probable human carcinogen according to the EPA's Integrated Risk Information System (IRIS).

Toxaphene has a low solubility in water and is strongly bound to soil. For this reason, technical toxaphene would not be expected to leach into groundwater. Prior to application, however, technical toxaphene was often mixed with chemicals such as xylene which acted as "carrier solvents." When applied with carrier solvents, toxaphene has been known to more readily leach into groundwater and present a public health risk.

Data suggests that toxaphene present in the top soils at the Site are as much as 49 times the EPA RML for industrial soil (160 mg/kg), and a number of residents live within 350 feet of the Site. Additionally, several old wells and monitoring wells are located in the most highly contaminated areas of the Site. These wells may be a direct route for toxaphene to enter the groundwater.

¹ See "More Information Is Needed On Toxaphene Degradation Products." December 16, 2005. IG Report 2006-P-00007.

² See NIOSH Pocket Guide at <http://www.cdc.gov/niosh/npg/npgd0113.html>

Detected concentrations of toxaphene in drinking water wells from four out of five locations sampled are above the EPA RML (1.3 µg/L) and the EPA MCL (3.0 µg/L) for toxaphene in tap water. Detected concentrations of toxaphene in monitoring wells located 350 feet from these residential wells are significantly higher (45 µg/L) and may migrate. The EPA is currently providing bottled water to residents and is in the process of planning a waterline installation. Data collected by the EPA indicates that toxaphene concentrations in soil may be as much as 30 times the EPA RML for industrial soil.

The soil and drinking water contamination at the Site poses the following threats to public health or welfare as listed in Section 300.415(b)(2) of the NCP:

a. 300.415(b)(2)(i): Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants

Investigation of the Site has documented that toxaphene concentrations in surface soil and residential well water exceed EPA RMLs. Residents currently have no alternative source of drinking water except for the bottled water that the EPA is providing. The contaminated soil is not fenced off from the public and trespassers or children may be exposed to the contaminated soil. At the present time, the Klouda Estate is used for commercial peach and pecan production and there is a potential for on-site worker exposure. Anyone entering the Site may potentially be exposed via direct contact with contaminated surface soils, inhalation of windborne dust, and inadvertent ingestion of contaminated soil. Off-site migration of toxaphene contaminated soil via erosion or airborne dust may lead to the exposure of nearby residents.

b. 300.415(b)(2)(ii): Actual or potential contamination of drinking water supplies or sensitive ecosystems

Detected concentrations of toxaphene in drinking water wells from four out of six locations sampled during the initial sampling are above the EPA RML (1.3 µg/L) and MCL (3.0 µg/L) for toxaphene in tap water. Detected concentrations of toxaphene in monitoring wells located 350 feet from these residential wells are significantly higher (45 µg/L) and may migrate. The EPA is currently providing bottled water to residents and is in the process of planning a waterline installation. Additionally, several old wells and monitoring wells are located in the most highly contaminated areas of the Site. These wells may be a direct route for toxaphene to enter the groundwater.

c. 300.415(b)(2)(iii): Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that pose a threat of release

There are presently drums of IDW on the Site. If left unattended, it is possible that deterioration of these drums overtime could allow future release of hazardous materials into the soil at the Site.

d. 300.415(b)(2)(iv): High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate

Analytical results reveal that high toxaphene concentrations are present at or near the surface creating a potential for migration to off-site locations via erosion or wind-blown dust.

e. 300.415(b)(2)(v): Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

As stated above, contamination of soils at the Site increases the possibility of contaminants being transported off-site via runoff. Heavy rainfall could potentially carry contaminated soils east toward the residential properties toward the east. The area is dry from time to time and other possible transport mechanisms include dust.

f. 300.415(b)(2)(vii): The availability of other appropriate federal or state response mechanisms to respond to the release

There are no other appropriate federal or state response mechanisms to take responsibility for this time-critical removal action.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

During the RSE, the EPA initiated an emergency response to provide residents with bottled water but did not address the source of contamination or the high levels of toxaphene in the soil. The change of scope and ceiling increase requested in this Action Memorandum, if approved, will address the source of the contamination, the soil. The additional funds will be used to complete the following proposed additional actions:

- Mobilize personnel and equipment to the Site;
- Implement the removal action in accordance with the schedule and requirements of an OSC approved Removal Action Work Plan. The Removal Action Work Plan shall include at a minimum the following deliverables: a health and safety plan; a contaminated soil excavation plan; a confirmatory sampling plan; a contaminated soil treatment and disposal plan; and a site restoration plan;
- Provide Site security during non-working hours;
- Evaluate any drums of IDW currently on-site, and secure or mitigate, as necessary, to prevent release;
- Excavate contaminated soils as deep as 1 foot at the Site which exceed 160 mg/kg, the EPA's industrial/commercial RML for toxaphene and 700 mg/kg, the EPA's industrial RML for DDT. Additionally removal contaminated soil as deep as 8 feet around several wells on site;

- Restore areas which are disturbed by the removal action to their pre-removal state to the maximum extent practicable;
- If deemed appropriate during the response action, perform on-site soil and/or groundwater sampling;
- Continue to work on plans to install water supply lines to affected residents.

2. Contribution to remedial performance

The proposed actions will, to the extent practicable, contribute to the efficient performance of any long-term remedial action at the Site.

3. Engineering Evaluation/Cost Analysis (EE/CA)

The proposed action is time-critical and does not require an EE/CA.

4. Applicable or relevant appropriate requirements (ARARs)

In accordance with the NCP at 40 C.F.R. § 300.415(j), on-site removal actions conducted under the CERCLA are required to attain applicable or relevant and appropriate requirements (ARARs) to the extent practicable considering the exigencies of the situation or provide grounds for invoking a CERCLA waiver under Section 121(d)(4). In determining whether compliance with ARARs is practicable; the lead agency may consider appropriate factors, including (1) the urgency of the situation; and (2) scope of the removal action to be conducted. Additionally, under 40 C.F.R. 300.405(g)(3), other advisories, criteria, or guidance may also be considered (so-called To-Be-Considered or TBC) when conducting the removal action.

Under CERCLA Section 121(e)(1), federal, state or local permits are not required for the portion of any removal or remedial action conducted entirely on-site as defined in 40 C.F.R. § 300.5. See also 40 C.F.R. §§ 300.400(e)(1) & (2). On-site means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action. On-site response actions must comply, to the extent practicable, with substantive but not administrative requirements of ARARs. Off-site activities such as transportation and disposal of wastes are required to comply with all applicable requirements, including the administrative portions.

As provided in CERCLA Section 121(d)(3) and the Off-site Rule at 40 C.F.R. 300.440 *et seq.* the off-site transfer of any hazardous substance, pollutant or contaminant generated during the response action will be sent to a treatment, storage or disposal facility that is in compliance with applicable federal and state laws and has been approved by the EPA for acceptance of CERCLA waste.

A letter was sent to the State of Georgia on August 17, 2012 requesting identification of any State ARARs for the EPA's consideration prior to initiation of the on-site response action activities. Initial communications are taking place with EPD to identify ARARs. Depending upon results of further investigation of the Site, additional ARARs may be applicable. The EPA OSC is in communication with EPD to develop an approach consistent with all ARARs as practicable.

5. Project Schedule

Additional response actions at the Site will be initiated upon approval of this Action Memorandum. Foregoing any unexpected delays, all actions are expected to be complete within six months of remobilization.

B. Estimated Costs³

	Current Ceiling	Proposed Increase	Proposed Ceiling
Regional Allowance Costs: ERRS	\$76,000	\$578,168	\$654,168
Non-Regional Allowance Costs: START	\$56,022	\$36,434	\$92,456
Subtotal	\$132,022	\$614,602	\$746,624
20% Contingency	\$26,404	\$122,920	\$149,325
Total Extramural Costs:	\$158,426	\$737,522	\$895,949

VI. EXPECTED CHANGE IN THE SITUATION SHOULD THE ACTION BE DELAYED OR NOT TAKEN

Actual or threatened releases of hazardous substances from this Site, if not addressed by the response action selected in this Action Memorandum, present an imminent and substantial endangerment to public health, welfare or the environment.

VII. OUTSTANDING POLICY ISSUES

No outstanding policy issues have been determined at this time.

VIII. ENFORCEMENT

Enforcement activities have been initiated and are ongoing. It is expected that this Site will be conducted as a fund-lead removal action. See Attachment, "Enforcement Addendum," for more detailed information.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$1,372,577 using the following formula: (Total Extramural Costs + Total Intramural Costs) + (45.26% x (Total Extramural Costs + Total Intramural Costs)) or (\$895,949+\$48,948) + (45.26% x (\$895,949+\$48,948)) = \$1,372,577.⁴

³ Current ceiling costs for START under RSE ceiling are \$56,022 and are included.

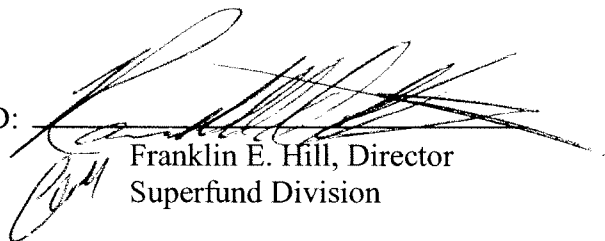
⁴ Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate, nor deviation of actual total costs from this estimate, will affect the United States' right to cost recovery.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Klouda Estate Site, Fort Valley, Peach County, Georgia, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal action, and I recommend your approval of the proposed project ceiling increase and change of scope to allow a continued removal response. If approved, this ceiling increase will bring the total project ceiling to \$895,949 of which \$654,168 will be funded by the Regional Removal Allowance.

APPROVED: _____


Franklin E. Hill, Director
Superfund Division

DATE: _____

9/11/12

DISAPPROVED: _____

Franklin E. Hill, Director
Superfund Division

DATE: _____

Attachments:

1. Enforcement Addendum
2. Emergency Action Memorandum signed May 4, 2012

